

**IN THE CLAIMS:**

Please amend the claims as follows:

1-46. (Cancelled).

47. (Currently Amended) A sensor unit, comprising:

a measured signal receiver registering a measured signal, which is a propagation time signal;

an A/D converter digitizing the measured signal;

a transceiver device wirelessly transmitting data to an environmental device; and

a processor activating the measured signal receiver, the A/D converter, and the transceiver device in such a way that, that the measured signal is digitized and subsequently transmitted without signal processing after the A/D conversion, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value;

wherein the sensor is a fill level sensor; and

wherein the measured signal receiver transmits and receives one of a radar signal, an ultrasound signal and a guided microwave signal.

48. (Previously Presented) The sensor unit of claim 47, wherein each of the measured signal receiver, the A/D converter, and the transceiver device includes (i) a data input, (ii) a data output and (iii) a control input, the data input of the A/D converter being connected to the data output of the measured signal receiver, the data input of the transceiver device being connected to the data output of the A/D converter, the transceiver device exchanging data with the environmental device via the corresponding data output, the processor controlling the measured signal receiver, the A/D converter, and the transceiver device via the corresponding control inputs.

49. (Cancelled).

50. (Cancelled).
51. (Previously Presented) The sensor unit of claim 47, wherein the measured signal is a propagation time signal.
52. (Previously Presented) The sensor unit of claim 47, wherein the wireless transmission of the data between the sensor unit and the environmental device is performed according to one of (i) a WLAN (IEEE 802.11) standard and (ii) a wireless personal area network standard (IEEE 802.15).
53. (Previously Presented) The sensor unit of claim 47, wherein the data transmission between the sensor unit and the environmental device is bidirectional.
54. (Previously Presented) The sensor unit of claim 47, wherein the environmental device is coupled to a process control system.
55. (Previously Presented) The sensor unit of claim 54, wherein the environmental device is wirelessly coupled to the process control system.
56. (Previously Presented) The sensor unit of claim 54, wherein the data transmission between the environmental device and the process control system is bidirectional.
57. (Previously Presented) The sensor unit of claim 54, wherein the environmental device is a mobile device.
58. (Previously Presented) The sensor unit of claim 47, wherein the sensor unit is wirelessly coupled to a further environmental device, the further environmental device including a control and display unit.

59. (Previously Presented) The sensor unit of claim 58, wherein the further environmental device is a mobile device.
60. (Previously Presented) The sensor unit of claim 58, wherein the environmental device is wirelessly coupled to the further environmental device.
61. (Previously Presented) The sensor unit of claim 58, wherein the data transmission occurs between the environmental device and the further environmental device and wherein the data transmission is bidirectional.
62. (Previously Presented) The sensor unit of claim 58, further comprising:  
a further transceiver device communicating with the further environmental device.
63. (Previously Presented) The sensor unit of claim 58, wherein the wireless transmission of the data between at least one of (i) the sensor unit and the further environmental device and (ii) the environmental device and the further environmental device is performed according to one of (a) a WLAN (IEEE 802.11) standard and (b) a wireless personal area network standard (IEEE 802.15).
64. (Previously Presented) The sensor unit of claim 58, wherein the sensor unit exchanges parameter and status data with the further environmental device.
65. (Previously Presented) The sensor unit of claim 47, wherein (i) the analysis unit and (ii) a control and display unit are integrated into the environmental device.
66. (Previously Presented) The sensor unit of claim 47, wherein the sensor unit includes an interface for a wire-bound data transmission.
67. (Previously Presented) A data communication system, comprising:

a plurality of sensor units of claim 47; and  
an environmental device wirelessly communicating with the sensor units, the  
environmental device being coupled to an analysis unit.

68. (Previously Presented) The data communication system of claim 67, further comprising:  
a further environmental device including a control and display unit.

69. (Previously Presented) An environmental device, comprising:  
a transceiver device wireless communicating with at least one sensor unit of claim 67;  
an analysis unit processing and converting a digital measured signal received from a  
sensor unit into a measured value, the analysis unit being one of (i) integrated into the  
environmental device and (ii) external to the environmental device.